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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 08/902,692
Filing Date: July 30, 1997
Appellant(s): REA ET AL.

Todd Albanesi
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 3/20/12 appealing from the Office action mailed 1/13/2011.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 49-64, 67,70 are rejected.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

Orme et al., "Multiple Chemical Sensitivity", American Council on Science and Health, pages1-24, 1994, from www.ACSH.org/publications/pubID.847pub_detail.ASP, retrieved 3/11/10.

Hall, "Environmental Medicine, Not Your Average Specialty", Science Based Medicine, pages 1-4, 2009, from "www.sciencebasedmedicine.org/?p=2564, retrieved 3/11/10.

Barrett, "Disciplinary Action against William Rea, M.D.", Casewatch, pages 1-11, 2007, www.casewatch.org/board/med/rea/complaint.shtml, retrieved 3/11/10.

Barrett, "Multiple Chemical Sensitivity: a Spurious Diagnosis", Quackwatch pages 1-8, 2005, www.quackwatch.org/01QuackeryRelatedTopics/mcs.html, retrieved 3/11/10.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 49-64, 67,70 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants arguments have been considered and deemed not persuasive.

The specification is not enabling for the claimed method of treating a “chemical sensitive individual”. Regarding Wands factors 4-8, the term “chemically sensitive individual" is not specifically defined in the specification. However, based on page 12, last paragraph, and page 15, last paragraph of the specification said patients apparently encompass those suffering from dermatitis, vasculitis, asthma, organic brain syndrome, gulf war syndrome or immune system specific suppression, dysfunction or deregulation and arthritis. However, Orme et al. indicates that it is unclear if a diagnostic entity such as the “chemically sensitive individual" (aka multiple chemical sensitivity) with the

aforementioned diseases actually occurs (see page 6, third paragraph from the bottom). Orme et al. disclose that “Numerous scientific review bodies have concluded that there is no evidence to support the use of "multiple chemical sensitivity" as a diagnostic entity." (see page 6). Thus, it is unclear if the disease which the claimed invention treats exists as a clinical entity (see Orme et al., page 22). Orme et al. also indicate a high level of skepticism regarding the validity of treatments proposed for “multiple chemical sensitivity” (see pages 8-16). Barrett also reaches similar conclusions.

Hall discloses that the connection between “chemical sensitivity” and the various diseases which the specification links to “chemical sensitivity” is questionable (see pages 1-4). In addition, regarding Inventor Rea and the use of the factor recited in the claims (aka ALF aka autogenous lymphocytic factor), Hall indicates that is unclear if ALF can actually be used to treat disease (see pages 3-4). Barrett (2007) discloses a complaint filed against Inventor Rea filed with the Texas Medical Board which questions the validity of the diagnosis and treatment of chemical sensitivity as proffered by Inventor Rea. In addition, there is no evidence of record that indicates that “chemical sensitivity” causes vasculitis, organic brain syndrome, gulf war syndrome or immune system specific suppression, dysfunction or deregulation and arthritis.

The claimed invention encompasses the treatment of a wide variety of diseases “caused by chemical sensitivity” including patients suffering from dermatitis, vasculitis, asthma, organic brain syndrome, gulf war syndrome or immune system specific suppression, dysfunction or deregulation and arthritis. The aforementioned collection of

diseases would encompass a plethora of autoimmune and inflammatory diseases. The specification discloses that said diseases involve chemical sensitivity and a dysfunctional cell cycle which is corrected by the treatment recited in the claims. However, as per above, the link between the aforementioned diseases and chemical sensitivity is unclear in view of the state of the art. The specification has not enabled the breadth of the claimed invention in view of the teachings of the specification because the use for the claimed methods is **the in vivo treatment of a plethora of disease apparently linked to chemical sensitivity in humans**. The state of the art is such that is unpredictable in the absence of appropriate evidence in humans to as to whether the claimed invention can be used to regulate an abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in a mammal wherein said method encompasses the in vivo treatment of humans to regulate an abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes and the in vivo treatment of human disease.

Regarding the use of the claimed method to regulate an abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in a mammal wherein said method encompasses the in vivo treatment of humans, there is no evidence in the specification that such regulation has been achieved using the claimed method. Regarding Wands factors 1-3, the claimed method encompasses a method wherein according to the specification the abnormal lymphocytic cell cycle of continuously

dividing T and B lymphocytes in a mammal is normalized. The only actual data disclosed in the specification wherein the cell cycle of human cells is analyzed is that represented in Figures 2-4. Figures 2a and 2b represent data indicating the cell cycle of human peripheral T lymphocytes from "normal" volunteers. This data provides no information about the cell cycle of human peripheral B lymphocytes from "normal" volunteers. The specification indicates that abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in a mammal is regulated. Figures 3a -3c purport to show the "irregular cell cycle profiles from environmentally compromised individuals". There is no disclosure as to what cells are referred to in said figure (e.g. only T cells, T and B cells, unfractionated lymphocytes, unfractionated leukocytes, etc.). Thus, it is unclear if there is any relationship between the data disclosed in Figure 2 and that in Figure 3 because it is unclear whether said Figures refer to the same or different cell populations. A similar problem exists with the data represented in Figure 4. Furthermore, if the data disclosed in Figure 4 refers to the cell cycle of T cells, it appears that the cell cycle of untreated patients in Figure 4a more closely approximates that seen in the normal controls than that seen in Figure 4c. Thus, the evidence of record suggests that the claimed method cannot be used to "regulate" the cell cycle of abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes because the term regulate would encompass normalization of an abnormal cell cycle and this has not been demonstrated. In addition, based on the data presented in the specification, it is unclear whether any effect on the cell cycle of continuously dividing B

lymphocytes in a mammal has been achieved. Furthermore, regarding the data disclosed in Figure 4c, in the absence of appropriate control data (untreated patient) it is unclear whether the data presented represents a random fluctuation seen in patients unrelated to treatment. There is no evidence provided that the claimed invention can be used to regulate the abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in patients suffering from autoimmune disease. Thus, based on the disclosure in the specification, it is unclear as to whether the claimed invention can be used to regulate an abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in a mammal wherein said method encompasses the in vivo treatment of a plethora of diseases in humans. Furthermore, the treated patients also received other treatments (for example see page 15) so it is unclear as to what treatments contributed to the "results" obtained in the specification in the absence of an appropriate control group. It is also noted that the number of cells used in the procedure disclosed in pages 9-10 to prepare ALF would yield a protein preparation with a concentration of any particular protein that would be far below that used for any biological modifier used to treat humans. For example, the use of rituximab in humans requires a dosage of approximately 750 mg per patient wherein said quantity requires billions to cells to produce such a quantity of molecule.

The specification does not disclose how to use the instant invention for the in vivo treatment of disease in humans. Applicant has not enabled the breadth of the claimed invention in view of the teachings of the specification because the use for the

instant invention disclosed in the specification is the in vivo treatment of disease in humans. The state of the art is such that is unpredictable in the absence of appropriate evidence as to how the instant invention could be used for the in vivo treatment of disease in humans.

Judge Lourie stated in Enzo Biochem Inc. v. Calgene Inc. CAFC 52 USPQ2d 1129 that:

The statutory basis for the enablement requirement is found in Section 112, Para. 1, which provides in relevant part that:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same. . . . 35 U.S.C. Section 112, Para. 1 (1994). "To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without 'undue experimentation.' " Genentech, Inc. v. Novo Nordisk, A/S , 108 F.3d 1361, 1365, 42 USPQ2d 1001, 1004 (Fed. Cir. 1997) (quoting In re Wright , 999 F.2d 1557, 1561, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993)). Whether claims are sufficiently enabled by a disclosure in a specification is determined as of the date that the patent application was first filed, see Hybritech, Inc. v. Monoclonal Antibodies, Inc. , 802 F.2d 1367, 1384, 231 USPQ 81, 94 (Fed. Cir. 1986), which in this case is October 20, 1983 for both the '931 and '149

patents.

We have held that a patent specification complies with the statute even if a "reasonable" amount of routine experimentation is required in order to practice a claimed invention, but that such experimentation must not be "undue." See, e.g., Wands , 858 F.2d at 736-37, 8 USPQ2d at 1404 ("Enablement is not precluded by the necessity for some experimentation . . . . However, experimentation needed to practice the invention must not be undue experimentation. The key word is 'undue,' not 'experimentation.' ") (footnotes, citations, and internal quotation marks omitted). In In re Wands , we set forth a number of factors which a court may consider in determining whether a disclosure would require undue experimentation. These factors were set forth as follows:

(1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

Id. at 737, 8 USPQ2d at 1404. We have also noted that all of the factors need not be reviewed when determining whether a disclosure is enabling. See Amgen, Inc. v. Chugai Pharm. Co., Ltd. , 927 F.2d 1200, 1213, 18 USPQ2d 1016, 1027 (Fed. Cir. 1991) (noting that the Wands factors "are illustrative, not mandatory. What is relevant depends on the facts.").

The Wands factors have been addressed above. It appears that undue experimentation

would be required of one skilled in the art to practice the instant invention using the teaching of the specification. See In re Wands 8 USPQ2d 1400(CAFC 1988).

(10) Response to Argument

Regarding appellants comments and the Rea declaration, the term "chemically sensitive individual" is not specifically defined in the specification. However, based on page 12, last paragraph, and page 15, last paragraph of the specification said patients apparently encompass those suffering from dermatitis, vasculitis, asthma, organic brain syndrome, gulf war syndrome or immune system specific suppression, dysfunction or deregulation and arthritis. The MPEP section 2111 [R-5] states:

2111 [R-5] Claim Interpretation; Broadest Reasonable Interpretation

CLAIMS MUST BE GIVEN THEIR BROADEST REASONABLE

INTERPRETATION

During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." >The Federal Circuit's en banc decision in Phillips v. AWH Corp., 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the "broadest reasonable interpretation" standard: The Patent and Trademark Office ("PTO") determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction "in light of the specification as it would be interpreted by one of ordinary skill in the art." In re Am. Acad. of Sci. Tech.

Ctr., 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004).

Thus, whilst the term "chemically sensitive individual" is not specifically defined in the specification, based on page 12, last paragraph, and page 15, last paragraph of the specification said patients apparently encompass those suffering from dermatitis, vasculitis, asthma, organic brain syndrome, gulf war syndrome or immune system specific suppression, dysfunction or deregulation and arthritis. Regarding appellants comments about "chemically sensitivity" versus "multiple chemical sensitivity", the reference to chemical sensitivity in the specification, page 4, second paragraph would be encompassed by the definition of "multiple chemical sensitivity" as per page 1 of Barrett, 2005. Barrett, 2005, page 1 discloses:

The expression "multiple chemical sensitivity" ("MCS") is used to describe people with numerous troubling symptoms attributed to environmental factors. Many such people are seeking special accommodations, applying for disability benefits, and filing lawsuits claiming that exposure to common foods and chemicals has made them ill. Their efforts are supported by a small cadre of physicians who use questionable diagnostic and treatment methods. Critics charge that these approaches are bogus and that MCS is not a valid diagnosis.

What Is MCS?

The concepts underlying MCS were developed by allergist Theron G. Randolph, M.D. (1906-1995), who asserted that patients had become ill from exposures to substances at doses far below the levels normally considered safe. In the 1940s, he declared that allergies cause fatigue, irritability, behavior problems, depression, confusion, and nervous tension in children.

In the 1950s, Randolph suggested that human failure to adapt to modern-day synthetic chemicals had resulted in a new form of sensitivity to these substances. His concern with foods then expanded to encompass a wide range of environmental chemicals. Over the ensuing years, the condition he postulated has been called allergic toxemia, cerebral allergy, **chemical sensitivity**, ecologic illness, environmental illness (EI), immune system dysregulation, multiple chemical sensitivity, total allergy syndrome, total environmental allergy, total immune disorder syndrome, toxic response syndrome, 20th century disease, universal allergy, and many other names that suggest a variety of causative factors. These labels are also intertwined with Gulf War syndrome, sick building syndrome, toxic carpet syndrome, and other politically controversial diagnoses.

However, Orme et al. indicates that it is unclear if a diagnostic entity such as the

"chemically sensitive individual" (aka multiple chemical sensitivity) with the aforementioned diseases actually occurs (see page 6, third paragraph from the bottom). Orme et al. disclose that "Numerous scientific review bodies have concluded that there is no evidence to support the use of "multiple chemical sensitivity" as a diagnostic entity." (see page 6). Thus, it is unclear if the disease which the claimed invention treats exists as a clinical entity (see Orme et al., page 22). Orme et al. also indicate a high level of skepticism regarding the validity of treatments proposed for "multiple chemical sensitivity" (see pages 8-16).

Hall discloses that the connection between "chemical sensitivity" and the various diseases which the specification links to "chemical sensitivity" is questionable (see pages 1-4). In addition, regarding Inventor Rea and the use of the factor recited in the claims (aka ALF aka autogenous lymphocytic factor), Hall indicates that is unclear if ALF can actually be used to treat disease (see pages 3-4).

Hall states (page 3):

> The poster boy for environmental medicine is **Dr. William Rea**, who was profiled on "Nightline" in 2008. They interviewed Rea and toured his clinic, seeing the detoxification saunas, the ceramic walls chosen because they are nonreactive, and the exercise machines that were cleaned of the lubricants that were putting fumes into the air. He claimed to have successfully treated 30,000 patients. They asked him about allegations that he had injected jet fuel into patients, and he explained that he only injected jet fuel antigens as a skin test for allergy. They asked him where his research was published and he evaded a direct answer, saying things like "The *New England Journal of Medicine* is a drug company journal." (!?)
>
> They interviewed one of his patients: a medical doctor who first thought she was depressed and saw a psychiatrist every day for a year. She had to stop because driving there exposed her to diesel fumes on the highway. Dr. Rea figured out what was "really" wrong with her: she was sensitive to practically everything in the environment. She can't use her telephone because the magnets in it give her a headache. She injects herself daily with all kinds of unconventional allergy shots. She even injects herself with mercury. She moved to an island and created a pollutant free home. She spends 2 hours a day inhaling oxygen. Curiously, she has no sensitivities to her dogs, her horses, or the dust kicked up as she rides in a dirt arena.

They interviewed a real allergy specialist who explains that these people are reacting to stress and they have developed a conditioned response so that they have symptoms when they smell something they think they're sensitive to. He says most of these patients have an underlying psychiatric problem. I suspect one of the reasons they improve is that they now have a mission and their attempts to avoid exposures and the effort required to detoxify and treat themselves takes up most of their time, keeps them entertained, and distracts them from dwelling on their psychological issues. But as was pointed out on Nightline, they are not cured.

Regarding appellants comments, Hall is simply reporting on the Rea profile on "Nightline" and subsequent rebuttal by a "real allergy specialist".

Hall states (pages 3-4):

To show how rigorous a scientist Rea is, here' s the most recent example of his published scientific studies:

Twenty-eight incapacitated individuals (average 43 years old, 7 males, 21 females, range 12-70) exposed to molds and mycotoxins were studied and treated with a protocol of cleaning up or changing their environment to be mold free. Injections of the optimum dose of antigens were given as part of the treatment protocol as was oral and intravenous (i.v.) antioxidants; heat depuration (sauna); physical therapy with massage and exercise under environmentally controlled conditions; oxygen therapy at 4-8 L/min for 2 hours with a special wood-grade cellophane reservoir and a glass oxygen container. Many patients were sensitive to plastics; therefore, exposures to these were kept to a minimum. Autogenous lymphocytic factor was given as an immune modulator. Of 28 patients, 27 did well and returned to work. One patient improved but did not return to work during the period of study.

With no controls and multiple interventions it is impossible to determine what worked or if anything actually did. Or even what was wrong with these patients in the first place. They are not trying to falsify a hypothesis or learn anything new; they are trying to justify a belief system. In my opinion, this kind of study amounts to junk science.

The data disclosed in the specification and referred to in the Rea declaration suffers from similar deficiencies (aka no controls and multiple interventions).

In addition, there is no evidence of record that indicates that "chemical sensitivity" causes vasculitis, organic brain syndrome, gulf war syndrome or immune system specific suppression, dysfunction or deregulation and arthritis. Barrett, 2005 (page 6) states:

"Multiple chemical sensitivity" is not a legitimate diagnosis. Instead of testing their claims with well-designed research, its advocates are promoting them through publications, talk shows, support groups, lawsuits, and political maneuvering (such as getting state governors to designate a Multiple Chemical Sensitivity Awareness Week). Many are also part of a network of questionable legal actions alleging injuries by environmental chemicals.

Many people diagnosed with "MCS" suffer greatly and are very difficult to treat. Well-designed investigations suggest that most of them have a psychosomatic disorder in which they develop multiple symptoms in response to stress. If this is true--and I believe it is--clinical ecology patients run the risks of misdiagnosis, mistreatment, financial exploitation, and/or delay of proper medical and psychiatric care.

Orme et al. states (page 5):

The leading practitioner of clinical ecology is **William J. Rea, M.D.**, who states that he has treated more than 20,000 patients at his Environmental Health Center in Dallas, Texas. He and his colleagues have suggested the following definition:

Chemical sensitivity is... an adverse reaction to ambient doses of toxic chemicals in our air, food, and water at levels which are generally accepted as subtoxic. Manifestation of adverse reactions depend on: (1) the tissue or organ involved, (2) the chemical and pharmacological nature of the toxin, (3) the individual susceptibility of the exposed person (genetic make-up, nutritional state, and total load at the time of exposure), (4) the length of the time of exposure, (5) amount and variety of other body stressors (total load) and synergism at the time of reaction, and (6) the derangement of metabolism that may occur from the initial insults.[4]

This definition is essentially the same as "multiple chemical sensitivity" as per referred to in the cited references and wherein the terms are used interchangeably.

Orme et al. (pages 6-7) further states:

Numerous scientific review bodies have concluded that there is no evidence to support the use of "multiple chemical sensitivity" as a diagnostic entity.

The American Academy of Allergy and Immunology has concluded: "The theoretical basis for ecologic illness in the present context has not been established as factual, nor is there satisfactory evidence to support the actual existence of 'immune system dysregulation' or maladaptation." The academy noted that there was no clear evidence for a cause-and-effect relationship between symptoms and environmental exposure.[8]

The California Medical Association (CMA) Scientific Board Task Force on Clinical Ecology conducted an extensive literature review and held a hearing on environmental illness and clinical ecology. They concluded: "Clinical ecologists have not identified specific, recognizable diseases caused by exposure to low-level environmental stressors." Moreover, the task force decided "there is no convincing evidence that supports the hypothesis on which clinical ecology is based."[9]

The American College of Physicians has concluded: "The existence of an environmental illness as presented in clinical ecology theory must be questioned because of the lack of clinical definition." It also noted there was "inadequate support" for the basic beliefs of clinical ecology.

The ad hoc Committee on Environmental Hypersensitivity Disorders in Ontario, Canada, conducted an extensive literature review, heard testimony and visited clinics. The committee's 500-page report concluded:
"scientific support for the mechanisms that have been proposed to underlay the wide variety of dysfunctions are at best hypothetical. Moreover the majority of techniques for evaluating the patients and the treatments espoused are unproven. [2]

The Canadian Psychiatric Association's position statement on environmental hypersensitivity acknowledges that patients diagnosed as environmentally sensitive experience "subjective discomfort and sometimes disability." The Association concluded, however, that "there is not sufficient evidence to state that environmental pollutants or food additives cause the complaints subsumed under the term 'environmental hypersensitivity.".11

The American Medical Association's Council on Scientific Affairs has concluded that "multiple chemical sensitivity should not be considered a recognized clinical syndrome." The council has also stated that there were no well-controlled studies establishing a clear mechanism or cause for MCS. 14

The claimed invention encompasses the treatment of a wide variety of diseases "caused by chemical sensitivity" including patients suffering from dermatitis, vasculitis, asthma, organic brain syndrome, gulf war syndrome or immune system specific suppression, dysfunction or deregulation and arthritis. The aforementioned collection of diseases would encompass a plethora of autoimmune and inflammatory diseases. The specification discloses that said diseases involve chemical sensitivity and a dysfunctional cell cycle which is corrected by the treatment recited in the claims. However, as per above, the link between the aforementioned diseases and chemical sensitivity is unclear in view of the state of the art. The specification has not enabled the breadth of the claimed invention in view of the teachings of the specification because the use for the claimed methods is the in vivo treatment of a plethora of disease apparently linked to chemical sensitivity in humans. The state of the art is

such that is unpredictable in the absence of appropriate evidence in humans to as to whether the claimed invention can be used to regulate an abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in a mammal wherein said method encompasses the in vivo treatment of humans to regulate an abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes and the in vivo treatment of human disease. The MPEP section 2164.03 [R-2] states:

2164.03 [R-2] Relationship of Predictability of the Art and the Enablement Requirement

The amount of guidance or direction needed to enable the invention is inversely related to the amount of knowledge in the state of the art as well as the predictability in the art. In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). The "amount of guidance or direction" refers to that information in the application, as originally filed, that teaches exactly how to make or use the invention. The more that is known in the prior art about the nature of the invention, how to make, and how to use the invention, and the more predictable the art is, the less information needs to be explicitly stated in the specification. In contrast, if little is known in the prior art about the nature of the invention and the art is unpredictable, the specification would need more detail as to how to make and use the invention in order to be enabling. >See, e.g., Chiron Corp. v. Genentech Inc., 363 F.3d 1247, 1254, 70 USPQ2d 1321, 1326 (Fed. Cir. 2004)

Regarding the use of the claimed method to regulate an abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in a mammal wherein said method encompasses the in vivo treatment of humans, there is no evidence in the specification that such regulation has been achieved using the claimed method. The specification states that chemical sensitivity is treated using the claimed method via regulating an abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in a mammal.

Regarding Wands factors 1-3, the claimed method encompasses a method wherein according to the specification the abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in a mammal is normalized. The only actual data disclosed in the specification wherein the cell cycle of human cells is analyzed is that represented in Figures 2-4. Figures 2a and 2b represent data indicating the cell cycle of human peripheral T lymphocytes from "normal" volunteers. This data provides no information about the cell cycle of human peripheral B lymphocytes from "normal" volunteers. The specification indicates that abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in a mammal is regulated. Figures 3a -3c purport to show the "irregular cell cycle profiles from environmentally compromised individuals". There is no disclosure as to what cells are referred to in said figure (e.g. only T cells, T and B cells, unfractionated lymphocytes, unfractionated leukocytes, etc.). Thus, it is unclear if there is any relationship between the data disclosed in Figure 2 and that in Figure 3 because it is unclear whether said Figures refer to the same or different

cell populations. A similar problem exists with the data represented in Figure 4. Furthermore, if the data disclosed in Figure 4 refers to the cell cycle of T cells, it appears that the cell cycle of untreated patients in Figure 4a more closely approximates that seen in the normal controls than that seen in Figure 4c. Thus, the evidence of record suggests that the claimed method cannot be used to "regulate" the cell cycle of abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes because the term regulate would encompass normalization of an abnormal cell cycle and this has not been demonstrated. In addition, based on the data presented in the specification, it is unclear whether any effect on the cell cycle of continuously dividing B lymphocytes in a mammal has been achieved. Furthermore, regarding the data disclosed in Figure 4c, in the absence of appropriate control data (untreated patient) it is unclear whether the data presented represents a random fluctuation seen in patients unrelated to treatment. There is no evidence provided that the claimed invention can be used to regulate the abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in patients suffering from autoimmune disease. Thus, based on the disclosure in the specification, it is unclear as to whether the claimed invention can be used to regulate an abnormal lymphocytic cell cycle of continuously dividing T and B lymphocytes in a mammal wherein said method encompasses the in vivo treatment of a plethora of diseases in humans.

Furthermore, the treated patients also received other treatments (for example see page 15) so it is unclear as to what treatments contributed to the "results" obtained in the specification in the absence of an appropriate control group.

It is also noted that the number of cells used in the procedure disclosed in pages 9-10 to prepare ALF would yield a protein preparation with a concentration of any particular protein that would be far below that used for any biological modifier used to treat humans. For example, the use of rituximab in humans requires a dosage of approximately 750 mg per patient wherein said quantity requires billions to cells to produce such a quantity of molecule. In addition, according to the specification, the ALF can be diluted a million fold and still be functionally active (see specification, page 11).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Ron Schwadron/

Primary Examiner, Art Unit 1644

Conferees:

/DANIEL E. KOLKER/

Supervisory Patent Examiner, Art Unit 1644

/Misook Yu/
Supervisory Patent Examiner, Art Unit 1642